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ABSTRACT

Cooperative education can enhance classroom instruction by providing practical work experience that is relevant to students' career goals. Among co-op's benefits to students are increased relevance of learning and motivation for study; improved self-reliance, self-confidence, and responsibility; contacts with potential employers; and higher starting salary after graduation. Among the benefits to participating institutions are improved relationships with business and the community; enhanced student retention and graduate placement; workplace-tested curriculum; and less need to maintain expensive state-of-the-art facilities. Among the benefits to employers are effective screening and recruitment; higher employee retention and productivity; and improved public relations. Co-op education appears to work best in metropolitan settings, in community colleges, and for students who major in engineering, business, and health occupations. However, fewer than 2 percent of all full-time postsecondary students and no more than 10 percent of all secondary vocational education students are involved in co-op programs. Some research on the effects of co-op education has been criticized for methodological weaknesses. Among the suggestions for increasing co-op's impact are to recruit larger numbers of the students most likely to benefit from it and to promote co-op as a viable alternative to heavy borrowing for college expenses. (Eleven references are included.) (CML)

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Clearinghouse on Adult, Career, and Vocational Education

COOPERATIVE EDUCATION: CHARACTERISTICS AND EFFECTIVENESS

Cooperative education can enhance classroom instruction by providing practical work experience that is relevant to students' career goals. Co-op appears to offer benefits to all involved: students, institutions, and employers. Federal support in the last two decades has been strong, particularly at the postsecondary level. Has cooperative education fulfilled its promise? Is it an effective way to prepare people for a rapidly changing world and workplace?

This **ERIC Digest** looks at evidence from the literature on co-op's benefits for students, schools, and employers. It examines some of the issues raised by the program's advocates and detractors and summarizes recommendations about the future of cooperative education.

Co-op and Students

Cooperative education may be defined as a structured program in which periods of study alternate with periods of related work experience. At the secondary level, students usually attend classes for part of the day and work for part of the day. Postsecondary co-op most often alternates a quarter or semester of classes with a period of full-time employment; college credit is often awarded for the employment period.

Some of the ways students benefit are as follows:

- o Clarification of career goals
- o Increased relevance of learning and motivation for study
- o Improved self-reliance, self-confidence, responsibility
- o Practice in human relations skills
- o Financial assistance for educational expenses
- o Contacts with potential employers
- o Feedback through performance assessment
- o Employability skills and marketable job skills
- o Exposure to practicing role models
- o Higher starting salary after graduation

Examples of student benefits are provided by La Guardia Community College. Annual follow-ups of co-op graduates (800-900 per year) indicate that 40-50 percent take jobs with their co-op employer, and their starting salaries are consistently higher than those of other 2-year college graduates (Weintraub 1980-1984).

Co-op and Institutions

Although the most obvious beneficiaries are students and employers, educational institutions discover academic and economic advantages to co-op programs:

- o Improved relationships with business and the community
- o Opportunity to update faculty
- o Enhanced student retention and graduate placement
- o Increased admissions and thus more selective admissions
- o Workplace-tested curriculum
- o Less need to maintain expensive state-of-the-art facilities
- o Potential sources for fundraising
- o Better use of school facilities
- o Extension of financial aid resources

Pace University has documented institutional benefits through surveys of faculty, students, and employers. At least half of incoming students were influenced to attend Pace by the existence of the co-op program, representing a 1-year tuition income of nearly $240,000. The co-op program's retention rate was 96 percent, compared to the university-wide rate of 52 percent (Dube and Korngold 1987).

Co-op and Employers

What do employers gain from participation in co-op?

- o Effective screening, selection, and recruitment
- o Higher employee retention and productivity
- o Highly motivated employees with realistic expectations
- o Lower recruitment and training costs
- o Better access to women and minorities
- o Opportunity to influence curriculum design and content
- o Improved public relations

Patterson and Mahoney (1985) cite findings from employers that recruitment efforts were 13 times more successful with co-op graduates, recruitment costs were lower ($50 compared to $800), and nearly 80 percent of co-op students offered permanent jobs accepted them.

Effectiveness of Co-op Programs

Among the issues in the debate on the effectiveness of cooperative education are (1) the numbers of students and institutions participating and (2) the quality and quantity of research evidence on the effects.

In terms of numbers, approximately 200,000 postsecondary students are involved in co-op programs at more than 1,000 colleges and universities. However, nearly half of these programs are concentrated in 11 states and 2 curriculum areas (Wilson 1987). Forty percent of student enrollments are at 6 percent of colleges with co-op programs--less than 2 percent of all full-time students and less than 2 percent of all colleges and universities (Heinemann et al. 1988). At the secondary level, best estimates place no more than 10 percent of all vocational education students (and therefore an even smaller number of all high school students) in co-op (Parsons 1988). Analyzing a recent national study of 423 postsecondary occupational programs, Grossman, Warmbrod, and Kurth (1988) found similar low levels of participation, concluding that "the impact of the program in the postsecondary environment is quite limited" (p. 25).

The quality and quantity of research on effectiveness was critiqued by Siedenberg (1989). He identified methodological problems in co-op program evaluation, such as small sample size, limitation to one discipline, limited response rate, and failure to control for the effects of grade point average, local unemployment rates, and prior work experience, among other variables.

On the other hand, Wilson (1987) reviews an accumulation of empirical evidence that lends support to the accuracy of the contentions of co-op advocates: participation contributes to clarification of career goals, autonomy and self-confidence, awareness of interpersonal relations, and increased motivation. In addition, Wilson (1989) states that outcome evaluations have improved, citing the use of more adequate instruments, more systematic methodology, and attempts to base evaluation on theory.

Brown's (1984) literature review suggests that co-op gives students realistic information about careers and organizations, improves job-related skills, and gives stronger certainty about career choice. However, she cites limitations of current research: lack of information about how co-op affects worker behavior, diverse types of co-op programs lumped together, and lack of theory-based evaluation. Her study found that co-op graduates have more realistic expectations of the first job, chose jobs relevant to their career plans, and had a greater sense of power on the job.

Leske and Persico's (1984) review of secondary cooperative vocational education research found few significant differences between co-op and other students and conflicting evidence on economic, social, personal, and equity outcomes. Identifying methodological problems, they conclude that co-op should not be considered a panacea for all youth. Their formal evaluation model can be used to assess secondary co-op programs.

Conclusion

The picture of cooperative education that emerges from a review of the literature has two faces. On the one hand, anecdotal and some research evidence demonstrates that the benefits listed earlier are realized by some students, institutions, and employers. It appears to work best in metropolitan settings, in community colleges, and for students who major in engineering, business, and health occupations.

On the other hand, it appears to be "a small program at the margins of postsecondary education" (Grossman et al. 1988, p. 26), lacking the scope, funding, visibility, and impact to be a vehicle for workplace transformation, as it has been promoted by some advocates (Patterson and Mahoney 1985). Co-op does not appear to help students in greatest need (ibid.), its methodology is vague and underdeveloped, and faculty do not recognize work as a vehicle for learning (Heinemann et al. 1988). Although some advocate making co-op more comprehensive (Parsons 1988), others stress that funds are insufficient for expansion and co-op should not try to be all things to all students.

Given co-op's theoretical potential, the economic challenges facing the nation, and the current emphasis generally on school-business partnerships, what can be done to increase its effectiveness and impact?

- Recruit larger numbers of the students most likely to benefit from co-op
- Develop new markets of potential students--foreign, adult, women, minority, and disabled students
- Promote co-op as a viable alternative to heavy borrowing for college expenses
- Formulate a rationale for co-op as the bridge between theory and practice and a natural component of general education
- Promote co-op as a vehicle for joint school-business ventures
- As multinational companies increase, develop international placements

Research needs include evaluating the kinds of learning outcomes attained; relating co-op to cognitive style; assessing its impact on personal development; involving other disciplines such as sociology, psychology, and economics; using multiple regression analysis and human capital theory to assess outcomes; performing longitudinal student follow-up; and identifying the characteristics of successful institutions.

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